

REMARKS

Applicants have carefully considered the October 24, 2005 Office Action, and the amendments above together with the comments that follow are presented in a bona fide effort to address all issues raised in that Action and thereby place this case in condition for allowance.

Claims 1-2 and 4-18 were pending in this application. Claims 11-18 have been withdrawn from consideration pursuant to the provisions of 37 C.F.R. § 1.142(b). In response to the Office Action dated October 24, 2005, claim 1 has been amended. Claim 1 has been amended to further recite that the thin film is located between the hole injection layer and the hole transporting layer.

Care has been exercised to avoid the introduction of new matter. Adequate descriptive support for the present Amendment should be apparent throughout the originally filed disclosure as, for example, the depicted embodiments (FIG. 1) and related discussion thereof in the written description of the specification.

Claims 1, 2 and 4-10 were rejected under 35 U.S.C. § 112, second paragraph. The Examiner asserted that the claimed plasma-treatment is “completely different” from the plasma deposit disclosed in the specification. Applicants respectfully traverse the Examiner’s rejection in view of the foregoing amendment to independent claim 1 which now recites that the thin film is formed by plasma deposit. Thus, the specification is consistent with the claimed subject matter of claim 1. Accordingly, one having ordinary skill in the art would not have difficulty understanding the scope of the presently claimed invention, particularly when reasonably interpreted in light of the supporting specification. Accordingly, reconsideration and withdrawal of the rejection are solicited.

Claims 1-2 and 4-10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hung (U.S. Pat. No. 6,208,077, hereinafter “Hung”). Applicants respectfully traverse.

The Examiner, at pages 3-6 of the Office action, stated that Hung (FIG. 2) teaches all of the limitations of independent claim 1, but for a thin film on the surface of the hole injecting layer 206 on the side of the light emitting layer 214. The Examiner concluded that it would have been obvious to form a thin film 306 (FIG. 3) on the hole injecting layer 206 of device 200 (FIG. 2), because including a thin film 306 between the hole injecting layer 206 and the hole transporting layer 212 would enhance the operational stability of the device, as suggested by the Hung.

In response to the arguments previously submitted on August 8, 2005, the Examiner, at page 6, asserted that Hung clearly discloses a prior art device wherein a CuPc layer is interposed between the ITO and a hole transport layer and results in a substantial increase of the drive voltage because of a hole injection barrier present at the interface between the CuPc and the hole transporting layer NPB. The Examiner stated that the presence of the plasma polymer between the hole injecting layer and the hole transporting layer exhibits enhanced hole injection and improves device operational stability. Moreover, the Examiner asserted that it is well known in the art that the anode 204, a hole injecting electrode, also function as a hole injecting layer if no additional hole injecting layer is used. The Examiner also stated that the addition of the hole injecting layer 206 is provided in device 200. Applicants respectfully traverse.

Independent claim 1, as amended, discloses an organic electroluminescent device comprising a hole injecting electrode, a hole transporting layer, a hole injecting layer, a light emitting layer, and an electron injecting electrode formed in this order. The device comprises a thin film formed by plasma-treatment on a surface of said hole injecting layer on the side of said light emitting layer. The thin film is located between the hole injection layer and the hole transporting layer and is formed of a material selected from the group consisting of carbon based

material, silicon based material, silicon carbide based material, and cadmium sulfide based material.

Hung discloses an organic electroluminescent device 200 shown as prior art in Fig. 2, comprising a CuPc layer 206, a hole transporting layer 212 and a light emitting layer 215, formed in this order on an anode 204. Further, in an organic electroluminescent device 300 shown in Fig. 3 of Hung, a thin plasma polymer film 306, a hole transporting layer 312 and a light emitting layer 314 are formed in this order on an anode. Hung teaches a concept of forming the thin plasma polymer film 306 between the anode 304 and the hole transporting layer 312 in place of forming the CuPc layer 206 between the anode 204 and the hole transporting layer 212. Hung does not disclose or remotely suggest a structure in which the thin plasma polymer film is located between a hole injection layer and a hole transporting layer as claimed.

As discussed above, the applied reference does not yield the claimed invention as a whole and, therefore, the rejection should be withdrawn. *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 USPQ2d 1434 (Fed. Cir. 1988). Indeed, the only basis for motivation to modify the applied reference is found in Applicants' disclosure, which is forbidden territory on which the Examiner may excavate for the motivational element. *Panduit Corp. v. Dennison Mfg. Co.*, 774 F.2d 1082, 227 U.S.P.Q. 337 (Fed. Cir. 1985).

Moreover, as described in the present specification, the use of a plasma-treated thin film enables an increased film thickness of the hole transporting layer while maintaining a low drive voltage of the organic electroluminescent device, resulting in the realization of a display panel with less defective pixels.

Accordingly, for the reasons outlined above, the rejection under 35 U.S.C. § 103(a) is not legally viable. Applicants, therefore, solicit the Examiner to withdraw the rejection of claims 1-2 and 4-10 under 35 U.S.C. § 103.

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It is believed that all pending claims are now in condition for allowance. Applicants therefore respectfully request an early and favorable reconsideration and allowance of this application. If there are any outstanding issues which might be resolved by an interview or an Examiner's amendment, the Examiner is invited to call Applicants' representative at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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